RM100X Series Professional Receiver & Decoder User Manual

（For SW Version 1.0.0.0 and above）

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About This User Manual

This user manual mainly introduce how to operate RM100x Series Professional Receiver during usage through front panel and web based console.

User Manual Index

- **Preface:** This chapter mainly introduce basic hardware interface of RM100x Series Professional Receiver, also including front panel and rear panel. Also introducing main instruction of system menu.
- **Input Setup:** This chapter mainly introduce how to operate the menu of input and how to set the parameter of input source.
- **Output Setup:** This chapter mainly introduce how to operate the output setup menu and how to set the parameter of output channel.
- **Program Setup:** This chapter mainly introduce how to operate the program setup menu and how to set the parameter of program setup.
- **CA Modules:** This chapter mainly display information of CA modules.
- **System Setting:** This chapter mainly introduce how to configure system setting.
- **Warning Message:** This chapter mainly introduce how to check device's warning message.
- **System Information:** This chapter mainly introduce how to check device's system information.
- **Web Based Console:** This chapter mainly introduce how to configure RM100x Series Professional Receiver using web based console.

1

Preface

RM100x Series Professional Receiver is a broadcast-quality decoder that provides MPEG-2 SD/HD, H.264 SD/HD decoding, advanced transport stream processing, cutting-edge IP processing technologies and variety of front-ends including DVB-S/C/T/S2,ASI, IP,etc.

Input interface：

- DVB-C/S/T/S2
- DVB-ASI
- IP(Optional)

Decoding Format：

- Video：MPEG1,MPEG2,MPEG4,H.264
- Audio：MPEG1 Layer1/2, MPEG2 Layer2,AAC,AC3

Output Interface：

- CVBS
- YPbPr
- SDI with embedded audio(Optional)
- AES/EBU
- ASI
- IP

When operating this device, you can control this device totally only using 7 keys and two lines LCD on front panel.

Please notice, the 7 keys will automatically locked if no operation in one minute, so you have to unlock the keys by pressing Left key, Right key, Up key, Down key sequentially.

Front Panel and Rear Panel

RM100x Series Professional Receiver's front panel can let you configure the device conveniently. Rear panel provides power cable interface, input and output interface.

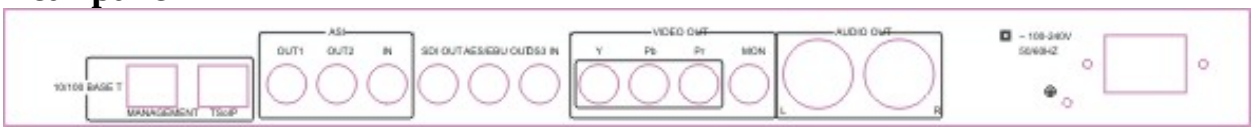
Front panel

There are one two lines LCD and 7 keys on front panel used to configure device.

LCD has two lines to display menu, you can use ▲and▼ keys to scroll the screen. Menu used to enter sub menu ,▲, ▼, ►, and ◄ used to modify parameter. OK used to enter sub menu or save modification, EXIT used to exit current menu without saving modification.

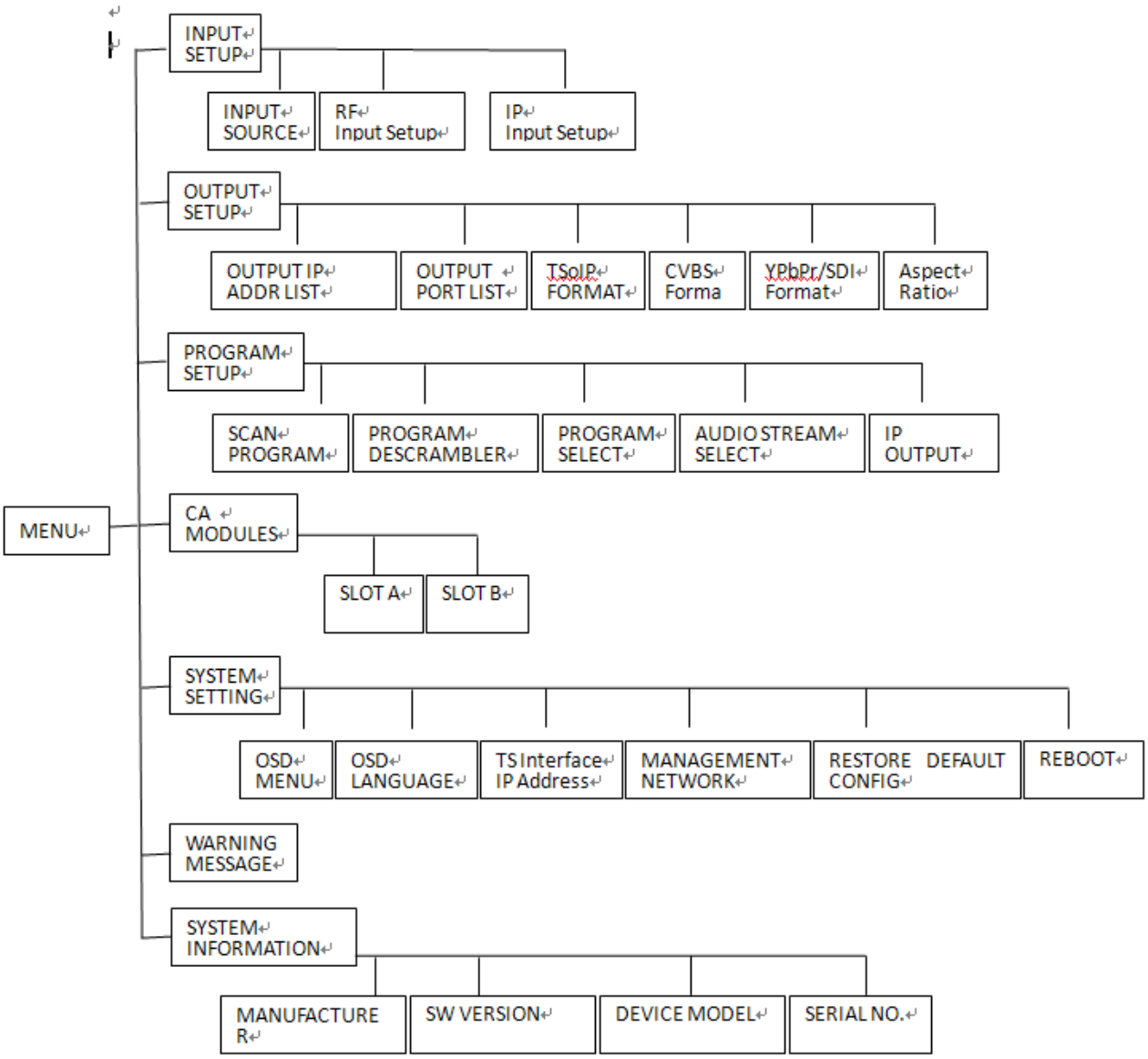
There are two LEDs on front panel to indicate the device's status, when power on and running, the POWER LED is green, when something is wrong with this device, the ERROR LED is red.

Rear panel



Main Menu

The Figure below is the whole structure of main menu.



Menu Structure

Menu Operation

RM100x Series Professional Receiver can be operated using the keys on front panel. Following is the usage instruction of the keys.

- ▼ Used to scroll down the menu, also can be used to decrease parameter in edit mode.
- ▲ Used to scroll up the menu, also can be used to increase parameter in edit mode
- ► Used to move the edit focus to right in edit mode。

- ◄ Used to move the edit focus to left in edit mode
- **OK** Used to enter sub menu, if no menu, press this key can save modification, exit current menu and return to parent menu.
- **EXIT** Used to exit current menu without saving modification and return to parent menu.
-

After booting up

After RM100x Series Professional Receiver booting up， LCD screen display device model and running status just like following figure.

```
RM1000-S2
IP: 192.168.1.3
```

If you want to enter main menu, press MENU key and use ▼ or ▲ to scroll up and down. Following figure list all the sub menu.

```
Input Setup
Output Setup
Program Setup
CA Modules
System setting
Warning Message
System Information
```

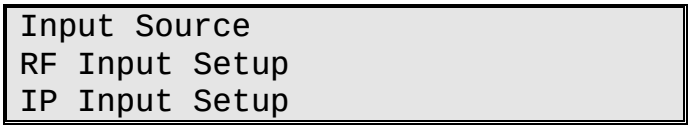
All Sub Menu

2

Input Setup

Input Setup menu allow you to select input source, set RF input parameter,IP input parameter, etc.

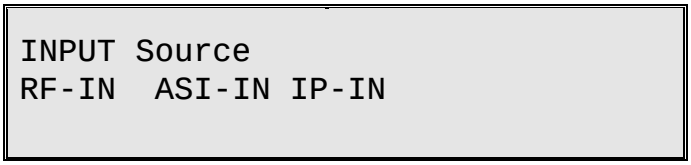
Select Input Setup from main menu and press OK to enter Input Setup menu. There are two sub menus in this menu, following figure list these two sub menus.



Sub menu of Input Setup Menu

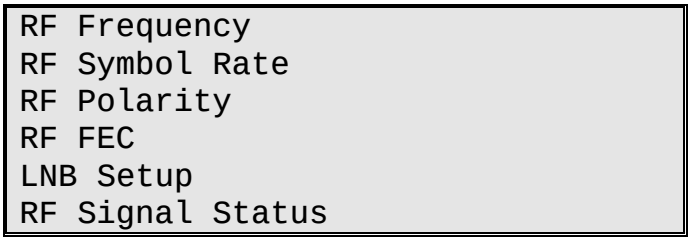
Input Source

Currently RM100x Series Professional Receiver can support several different input interfaces: RF-IN, ASI-IN and IP-IN. To change Input Source, select Input Source and press ok to enter sub menu, then you can select RF-IN,ASI-IN or IP-IN using ◄ and ►. After selecting, press OK to save modification and exit the current menu, or press EXIT to discard modification and exit the current menu.



RF Input Setup

IF select RF-IN as input source, you must configure the parameter of RF input . To enter RF Input Setup menu, select RF Input Setup and press OK. Following figure is the whole list for sub menus of RF Input Setup Menu.



RF Frequency

Enter this menu to edit the frequency of input signal.

- Press ► to move edit focus to right
- Press ◄ to move edit focus to left
- Press ▲ to increase value
- Press ▼ to decrease value
- Press OK to save modification and exit
- Press EXIT to discard modification and exit

RF Symbol Rate

Enter this menu to edit the symbol rate of input signal.

- Press ► to move edit focus to right
- Press ◄ to move edit focus to left
- Press ▲ to increase value
- Press ▼ to decrease value
- Press OK to save modification and exit
- Press EXIT to discard modification and exit
-

RF Polarity

Enter this menu to select RF polarity of input signal.

```
RF Polarity
Horizontal                Vertical
```

- Press ► and ◄ to select Horizontal or Vertical
- Press OK to save modification and exit
- Press EXIT to discard modification and exit

RF FEC

Enter this menu to select RF FEC of input signal.

```
RF FEC
1/2 2/3 3/4 5/6 7/8
```

- Press ► and ◄ to select Horizontal or Vertical
- Press OK to save modification and exit
- Press EXIT to discard modification and exit

LNB Setup

Enter this menu to set LNB parameters.

LNB Power	ON/OFF
22KHz Tone	ON/OFF
C LO Freq.	
KU LO Freq.	

RF Signal Status

This menu used to display signal strength and quality.

Signal Strength
Signal Quality

IP Input Setup

IF select IP-IN as input source, you must configure the parameter of IP input . To enter IP Input Setup menu, select IP Input Setup and press OK. Following figure is the whole list for sub menus of IP Input Setup Menu.

Input Port	1234
Multicast Mode	OFF
Multicast Address	226.1.1.3
TSoIP Format	UDP

Input Port

Input Port indicates the device is receiving data from which socket port.

To change input port, select Input Port and press OK.

- Press ► to move edit focus to right
- Press ◄ to move edit focus to left
- Press ▲ to increase value
- Press ▼ to decrease value
- Press OK to save modification and exit
- Press EXIT to discard modification and exit
-

Multicast Mode

RM100x Series Professional Receiver can support multicast mode and unicast mode, if you set multicast mode off, the device receiving data through IP using unicast mode.

To change multicast mode, select Multicast Mode and press OK.

- Press ► and ◄ to select OFF or ON
- Press OK to save modification and exit
- Press EXIT to discard modification and exit

-

Multicast Address

Multicast address indicates from which IP address the device is receiving data.
To change multicast address, select Multicast Address and press OK.

- Press ► to move edit focus to right
- Press ◄ to move edit focus to left
- Press ▲ to increase value
- Press ▼ to decrease value
- Press OK to save modification and exit
- Press EXIT to discard modification and exit
-

TSoIP Format

RM100x Series Professional Receiver can support udp and rtp protocal.
To change TSoIP format, select TSoIP Format and press OK.

- Press ► and ◄ to select UDP or RTP
- Press OK to save modification and exit
- Press EXIT to discard modification and exit

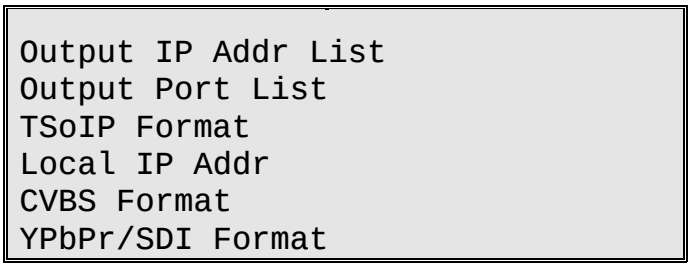
3

Output Setup

Output Setup Menu used to configure the parameter of IP output interface when outputting TS stream through IP interface. RM100x Series Professional Receiver can support outputting 16 channels simultaneously through IP interface. Using this menu, you can set the IP address, port number, transport protocol for each channel

To enter output setup menu, select Output Setup from main menu and press ok.

Following figure is the whole list of sub menus for Output Setup Menu。



Output IP Addr List

RM100x Series Professional Receiver can output 16 IP channels through IP interface simultaneously, each channel can be configured to be different IP address or same IP address.

1. Select **Output Setup**> **Output IP Addr List**. LCD screen like the below figure.

This means the IP address for channel one is 192.168.6.1.

Press OK to enter edit mode and change the IP address

- Press ► to move edit focus to right
- Press ◄ to move edit focus to left
- Press ▲ to increase value
- Press ▼ to decrease value

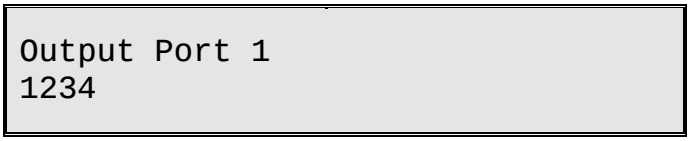
- Press OK to save modification and exit
- Press EXIT to discard modification and exit
-

2. IF you want to change IP address for other channels, please repeat above sequence.

Output Port List

RM100x Series Professional Receiver also can set different port number for each IP channel.

1. Select **Output Setup**> **Output Port List**.



This means the port number for channel one is 1234.

Press OK to enter edit mode and change the port number

- Press ► to move edit focus to right
- Press ◄ to move edit focus to left
- Press ▲ to increase value
- Press ▼ to decrease value
- Press OK to save modification and exit
- Press EXIT to discard modification and exit
-

2. IF you want to change port number for other channels, please repeat above sequence.

TSoIP Format

RM100x Series Professional Receiver's IP output can support udp protocol and rtp protocol, which can be selected through this menu.

Select **Output Setup** > **TSoIP Format.**

This means currently the device using UDP protocol to output TS stream through IP interface.

Press OK to enter edit mode.

Now，select UDP or RTP using ► and ◄.

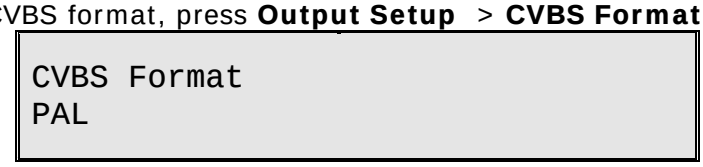
Press OK to save modification and exit

Press EXIT to discard modification and exit

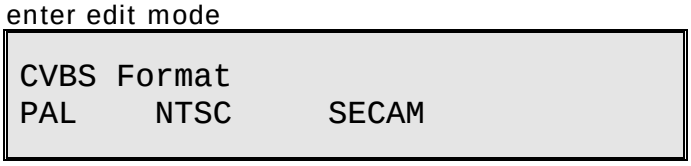
CVBS Format

Using this menu to select the output format of CVBS output including PAL,NTSC,SECAM。

To select CVBS format, press **Output Setup** > **CVBS Format**,



Press Ok to enter edit mode



Now, using ► and ◄ to select CVBS format.

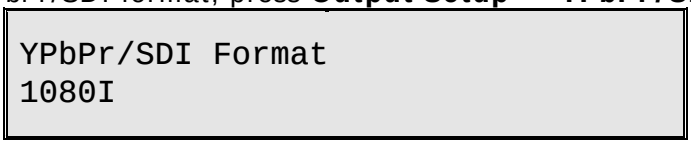
Press OK to save modification and exit

Press EXIT to discard modification and exit

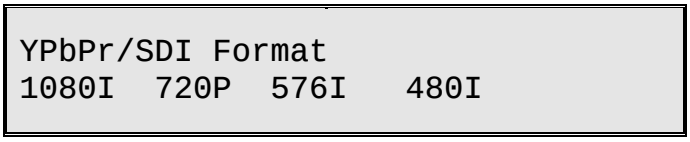
YPbPr/SDI Format

Using this menu to select the output format of YPbPr and SDI output including 576I,480I。

To select YPbPr/SDI format, press **Output Setup** > **YPbPr/SDI Format**



Press OK to enter edit mode



Now, using ► and ◄ to select CVBS format.

Press OK to save modification and exit

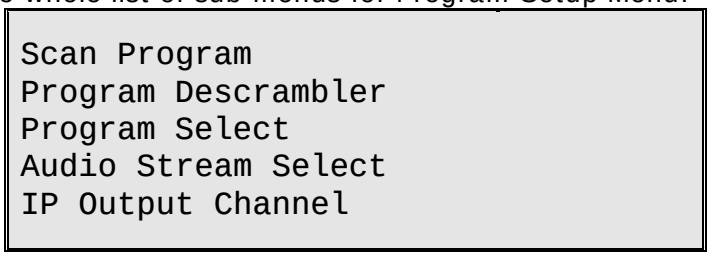
Press EXIT to discard modification and exit

4

Program Setup

Program Setup menu used to scan program, select audio stream and using which IP channel to output this program.

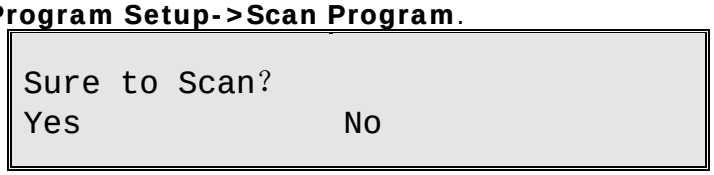
To enter Program Setup Menu, select Program Setup and press OK. Following figure is the whole list of sub menus for Program Setup Menu.



Scan Program

Scan Program used to scan program from input stream and list all programs in this stream.

1. Select **Program Setup->Scan Program**.



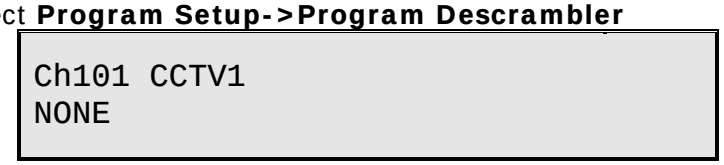
2. If select Yes and press OK, this device begin searching programs from input stream.

3. After completion of program scanning, then the device list all the programs have been searched on the screen.

Program Descrambler

This menu used to select using which slot to descramble program.

1. Select **Program Setup->Program Descrambler**



2. Press Ok to enter edit mode.

Now, using ► and ◄ to select using which slot to descramble program.

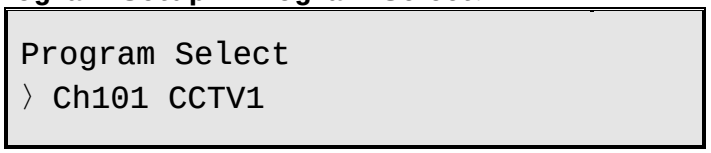
Press OK to save modification and exit

Press EXIT to discard modification and exit

Program Select

Program Select menu is used to select one program from program list to be decoded and displayed.

1. Select **Program Setup->Program Select**。



2. Press ▲,▼ to select program
3. Press OK to decode and display selected program, or press EXIT to exit this menu.

Audio Stream Select

Audio Stream Select menu is used to select one audio stream to decode and display when one program has more than one audio streams.

1. Select**Program Setup->Audio Stream Select**。

The first line is program name, the second line means there are two audio streams in this program and the first audio stream is selected currently.

2. Press OK to enter edit mode:

Using ► and ◄ to select which audio stream will be decoded.

3. Press OK to save modification, press EXIT to discard modification and return to parent menu.

IP Output Channel

IP Output Channel menu used to select IP output channel for each program. All programs can to outputted through same IP output channel or different channel.

1. Select **Program Setup->IP Output Channel**:

The first line is program name, the second line means this program is outputted through IP channel 0.

2. Press OK to enter edit mode:

Press ► to move edit focus to right

Press ◄ to move edit focus to left

Press ▲ to increase value

Press ▼ to decrease value

3. Press OK to save modification, press EXIT to discard modification and return to parent menu.

5

CA Modules

CA modules used to display information of CA modules and set parameters of CA modules.

Select **CA Modules,** press **OK** to enter edit mode

```
CA Modules
Slot 1:                {ViAccess }
```

Using ► and ◄ to select slot

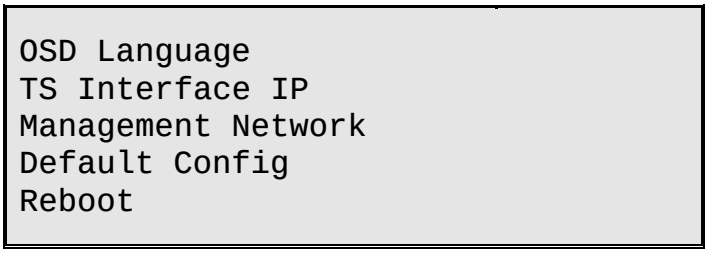
The slot information and menu are provided by CA module manufactures.

6

System Setting

System Setting menu used to configure global parameter of this device.

To enter system setting, Select System Setting and press OK. Following figure is the full list of sub menus for System Setting Menu.

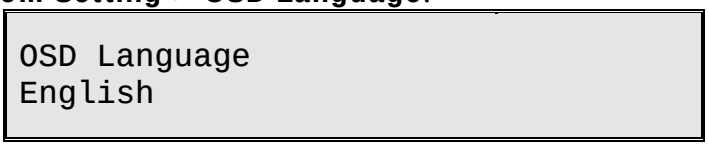


System Setting Sub Menus

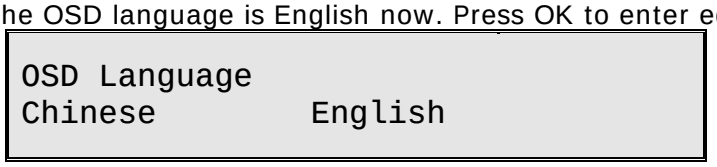
OSD Language

OSD Language menu used to select language displayed on video through CVBS output.

Select **System Setting > OSD Language**:



This means the OSD language is English now. Press OK to enter edit mode:



Using ► and ◄ to select which language will be used.

Press OK to save modification, press EXIT to discard modification and return to parent menu.

TS Interface IP

TS Interface IP menu used to set local IP address for TSoIP Ethernet IP address.

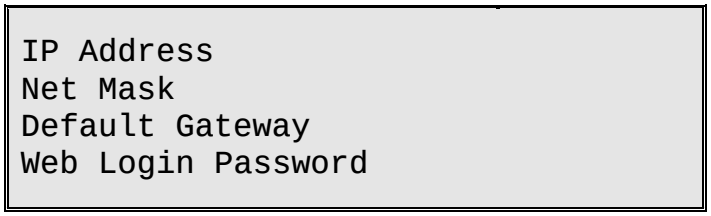
Select **System Setting > TS Interface IP**:

If you want to change TS interface IP, Press OK to enter edit mode:

- Press ► to move edit focus to right
- Press ◄ to move edit focus to left
- Press ▲ to increase value
- Press ▼ to decrease value
- Press OK to save modification and exit
- Press EXIT to discard modification and exit

Management Network

Management Network menu can configure the parameter of management network interface used to manage the device using web based console. Following figure is the full list of this menu.



1. Change IP address

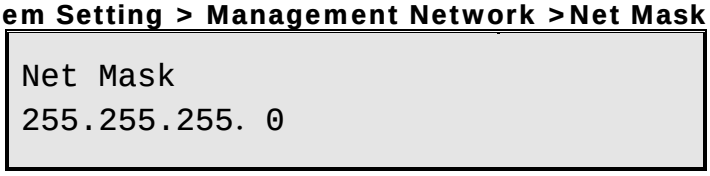
Select **System Setting > Management Network**

Press OK to enter edit mode:

- Press ► to move edit focus to right
- Press ◄ to move edit focus to left
- Press ▲ to increase value
- Press ▼ to decrease value
- Press OK to save modification and exit
- Press EXIT to discard modification and exit
-

2. Change Net Mask

Select **System Setting > Management Network >Net Mask**

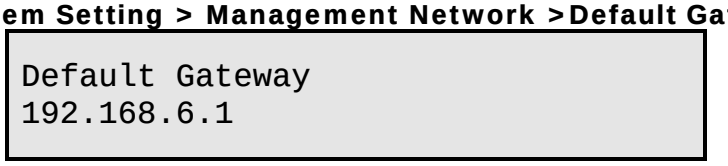


Press OK to enter edit mode:

- Press ► to move edit focus to right
- Press ◄ to move edit focus to left
- Press ▲ to increase value
- Press ▼ to decrease value
- Press OK to save modification and exit

3. Change Default Gateway

Select **System Setting > Management Network >Default Gateway**

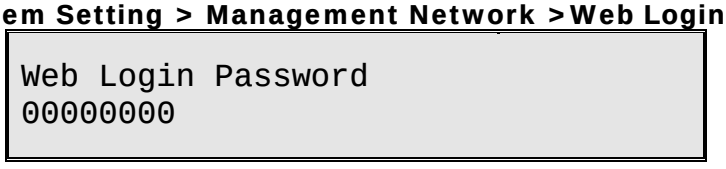


Press OK to enter edit mode:

- Press ► to move edit focus to right
- Press ◄ to move edit focus to left
- Press ▲ to increase value
- Press ▼ to decrease value
- Press OK to save modification and exit

4. Change Web Login Password

Select **System Setting > Management Network >Web Login Password**



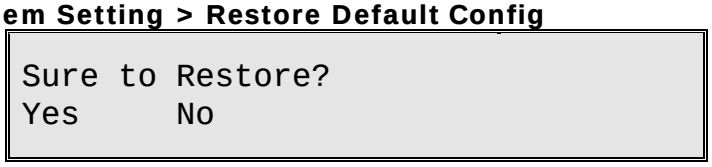
Press OK to enter edit mode:

- Press ► to move edit focus to right
- Press ◄ to move edit focus to left
- Press ▲ to increase value
- Press ▼ to decrease value
- Press OK to save modification and exit

Default Config

This menu used to reset device to default configuration

Select **System Setting > Restore Default Config**

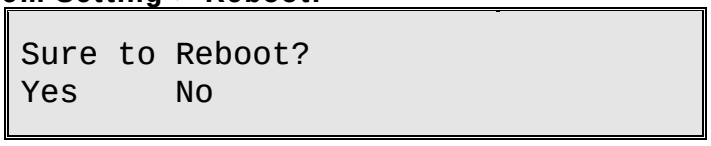


Using ► and ◄ to select, select Yes and press OK to reset the device to default configuration, press EXIT to return to parent menu.

Reboot

This menu used to reboot the device.

Select **System Setting > Reboot:**



Using ► and ◄ to select, select Yes and press OK to reboot the device, press EXIT to return to parent menu.

7

Warning Message

This menu used to display warning message. When the Error LED is red on front panel, you can check the warning message by entering this menu.

8

System Information

System information menu used to display information including manufacturer, software version, device model, serial number, etc.

```
Manufacturer
SW Version
Device Model
Serial No.
```

9

Web based console

Web based console enable you to manage RM100x Series Professional Receiver using any computer installed web browser connected with RM100x Series Professional Receiver through IP network.

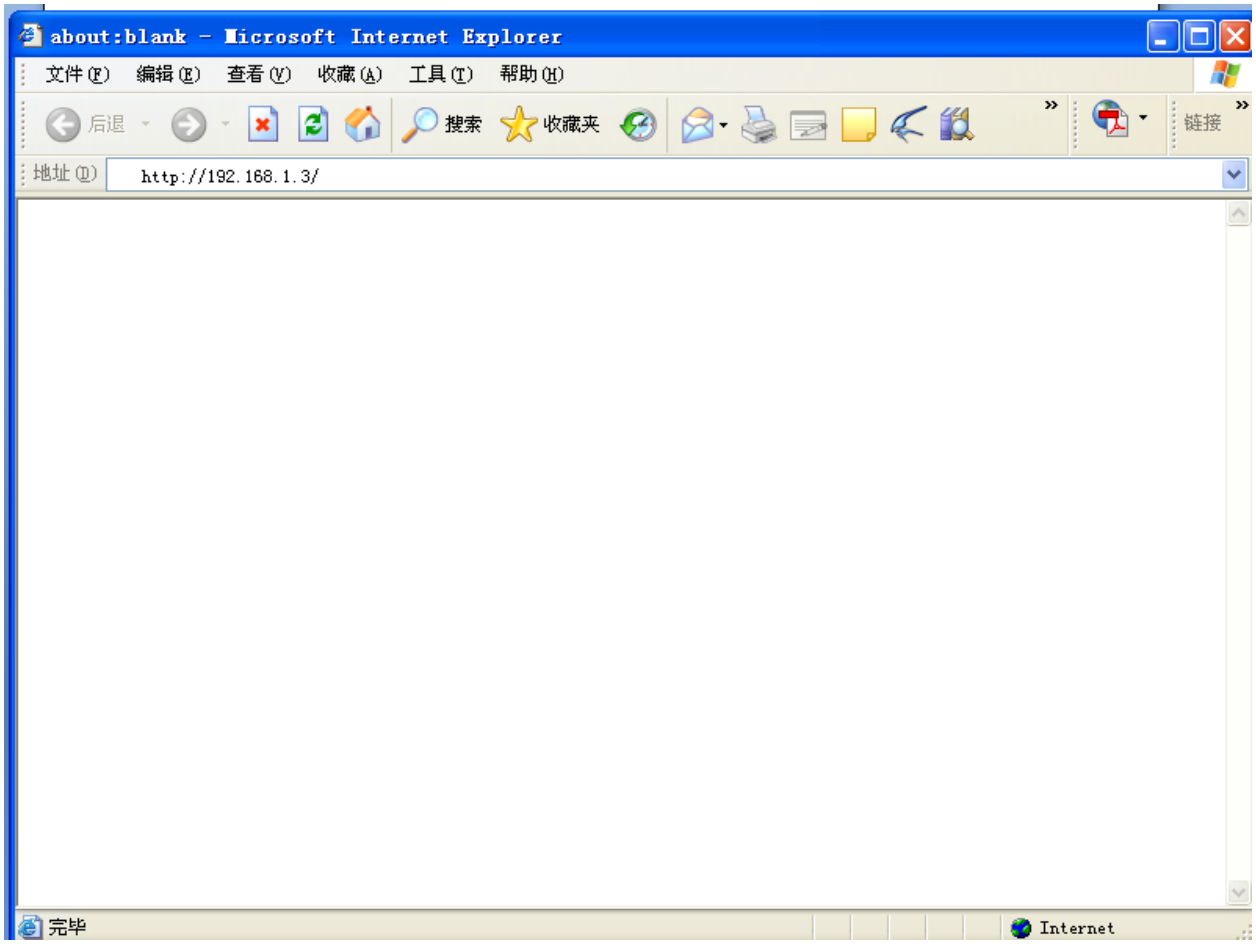
To use web based console, you must do as following:

1. Prepare one computer installed web browser

2. Connect RM100x Series Professional Receiver with the computer using IP network

3. Configure RM100x Series Professional Receiver's management network(see details in chapter 5, Management Network Menu) and the computer's network to ensure their IP address in the same network domain.

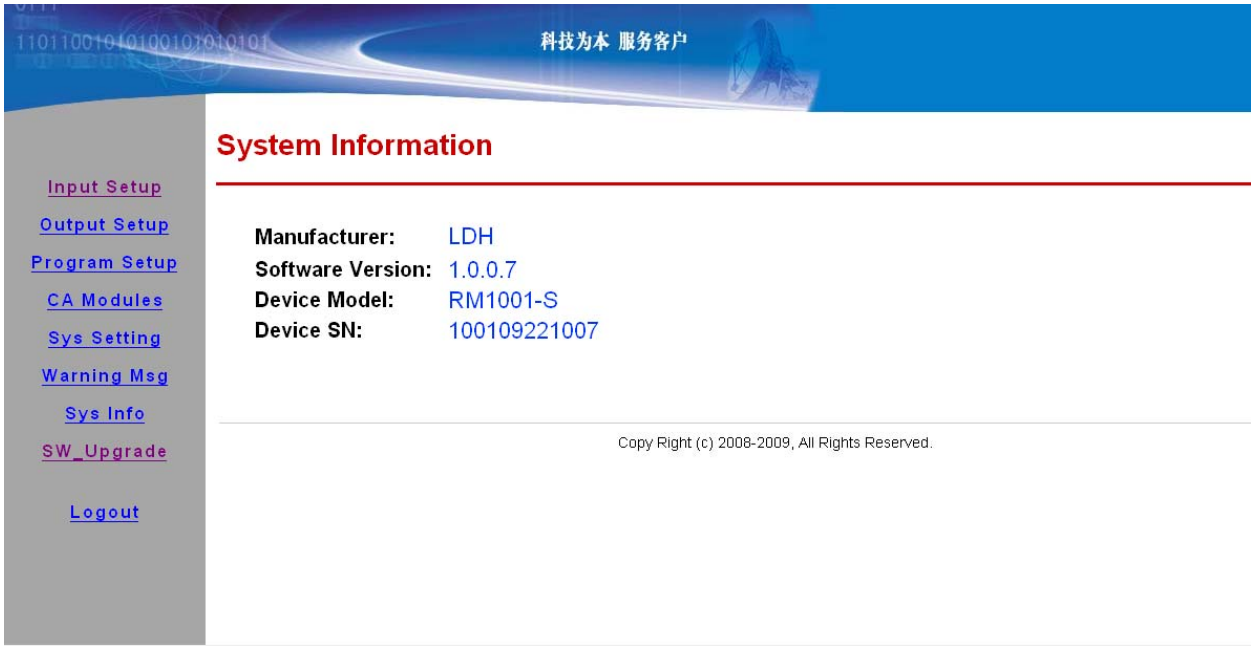
Now open web browser on the computer, and input the management IP address of RM100x Series Professional Receiver just like below, for example, the management IP address of RM100x SERIES PROFESSIONAL RECEIVER is 192.168.1.3 :



Then, web browser will prompt up a dialogue to allow you input user name and password:

The default user name and password are both “admin”.

After logging in successfully, we can manage RM100x SERIES PROFESSIONAL RECEIVER using following web console.



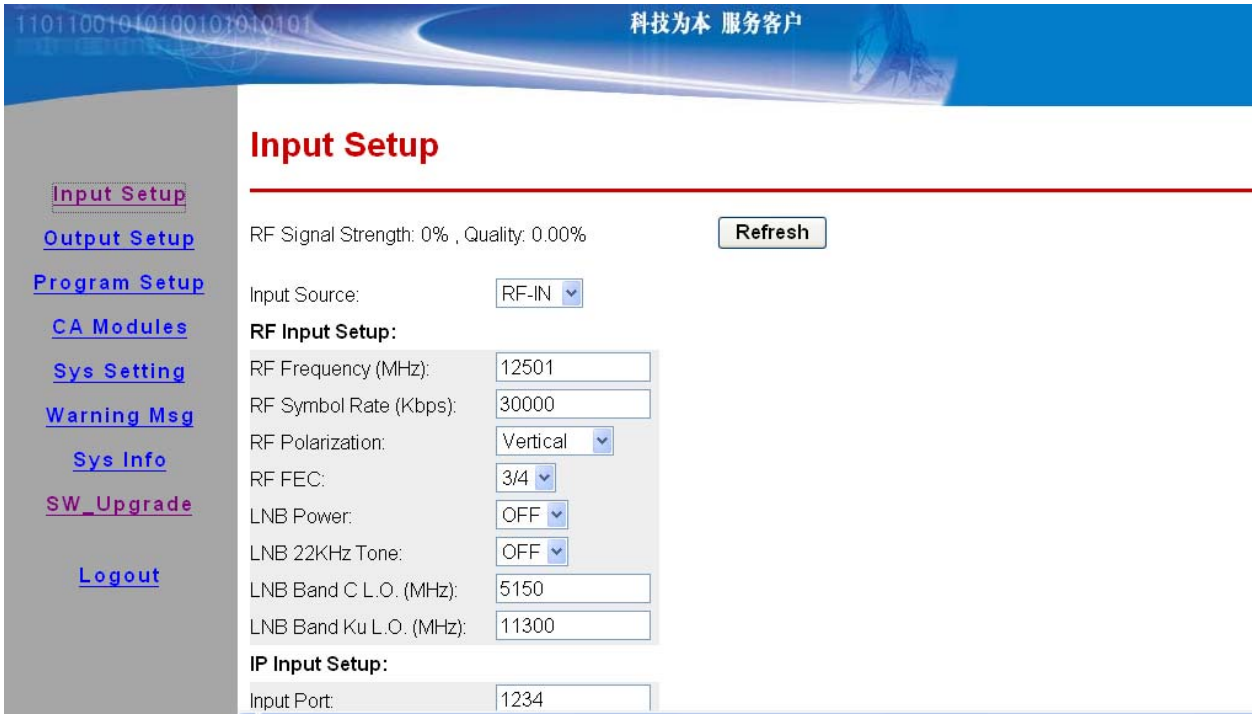
There are two columns, left side is menu list, right side is the details of the selected menu. To enter one menu, please click the menu list on the left side.

Input Setup

Input Setup Menu used to select input source and set the input parameters when selecting RF-IN or IP-IN as input source.

Please notice that all modification will take effect only after clicking Set button.

For details, please see Chapter 2.

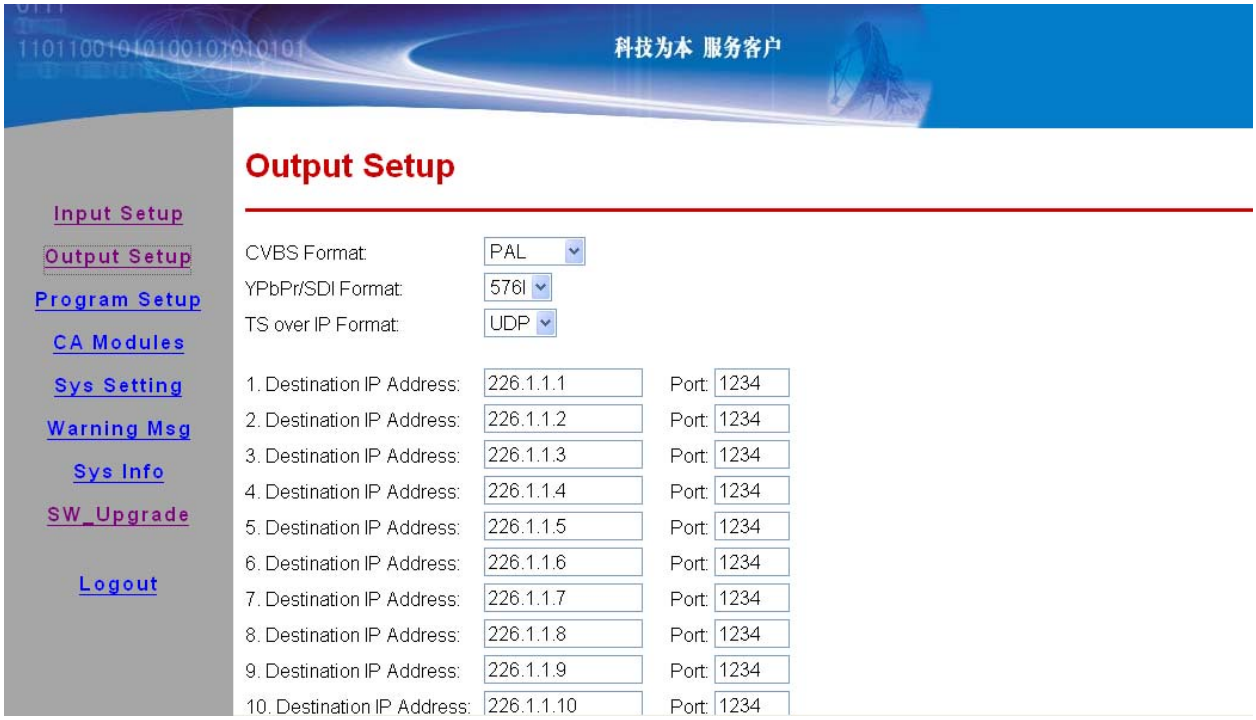


Output Setup

Output Setup menu used to configure IP output channel.

Please notice that all modification will take effect only after clicking Set button.

For details, please see Chapter 3.

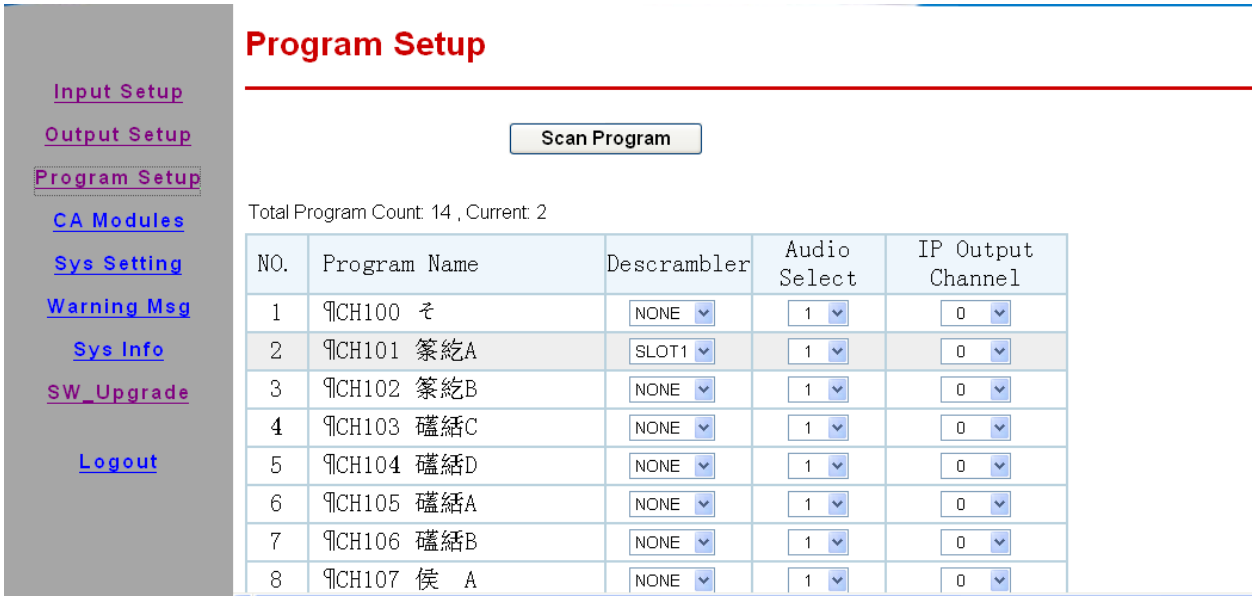

科技为本 服务客户
Output Setup
Input Setup
Output Setup
Program Setup
CA Modules
Sys Setting
Warning Msg
Sys Info
SW_Upgrade
Logout
CVBS Format: PAL
YPbPr/SDI Format: 576I
TS over IP Format: UDP
1. Destination IP Address: 226.1.1.1 Port: 1234
2. Destination IP Address: 226.1.1.2 Port: 1234
3. Destination IP Address: 226.1.1.3 Port: 1234
4. Destination IP Address: 226.1.1.4 Port: 1234
5. Destination IP Address: 226.1.1.5 Port: 1234
6. Destination IP Address: 226.1.1.6 Port: 1234
7. Destination IP Address: 226.1.1.7 Port: 1234
8. Destination IP Address: 226.1.1.8 Port: 1234
9. Destination IP Address: 226.1.1.9 Port: 1234
10. Destination IP Address: 226.1.1.10 Port: 1234

Program Setup

Program Setup menu used to scan program, select which IP channel to output one program, select which program to be decoded and displayed.

Please notice that all modification will take effect only after clicking Set button.

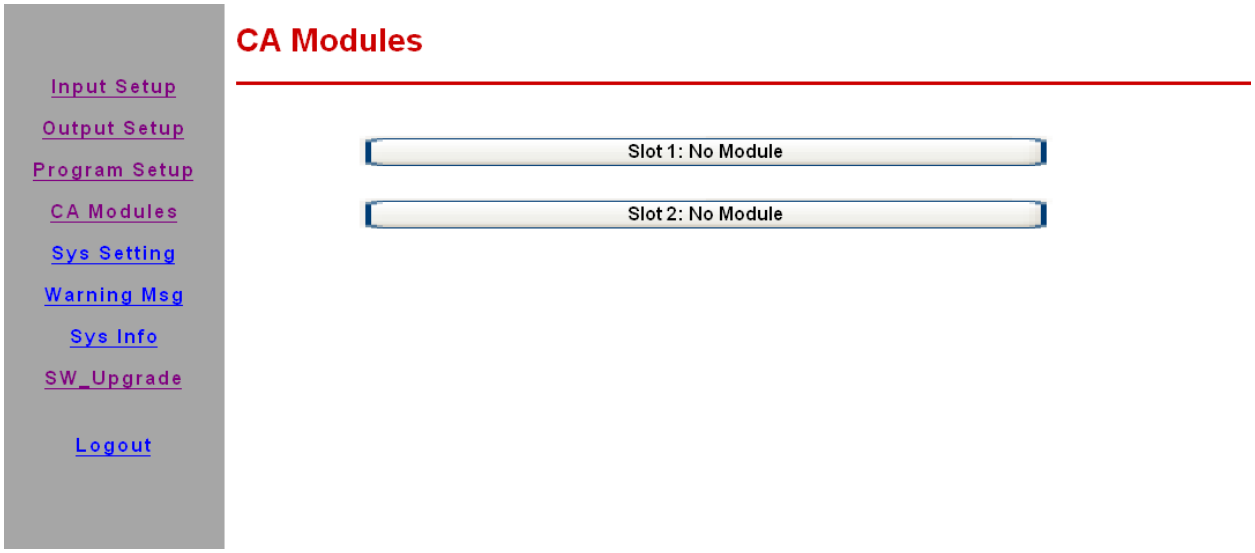
For details, please see Chapter 4.



CA Modules

CA modules used to display information of CA modules and set the parameter of CA modules.

For details, please see Chapter 5.

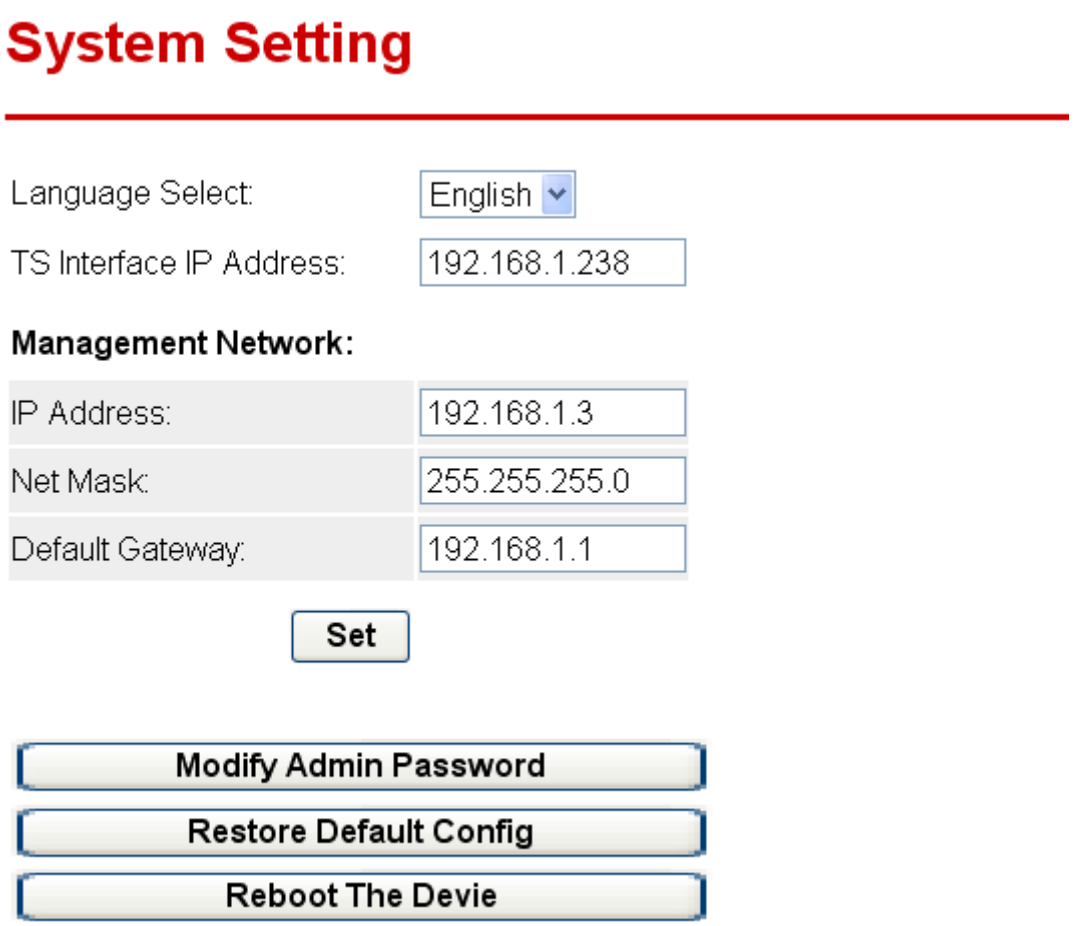


System Setting

System Setting menu used to configure global parameter of this device.

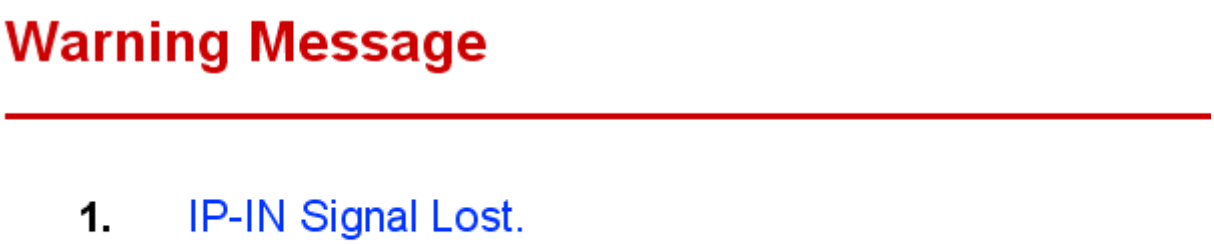
Please notice that all modification will take effect only after clicking Set button.

For details, please see Chapter 6



Warning Message

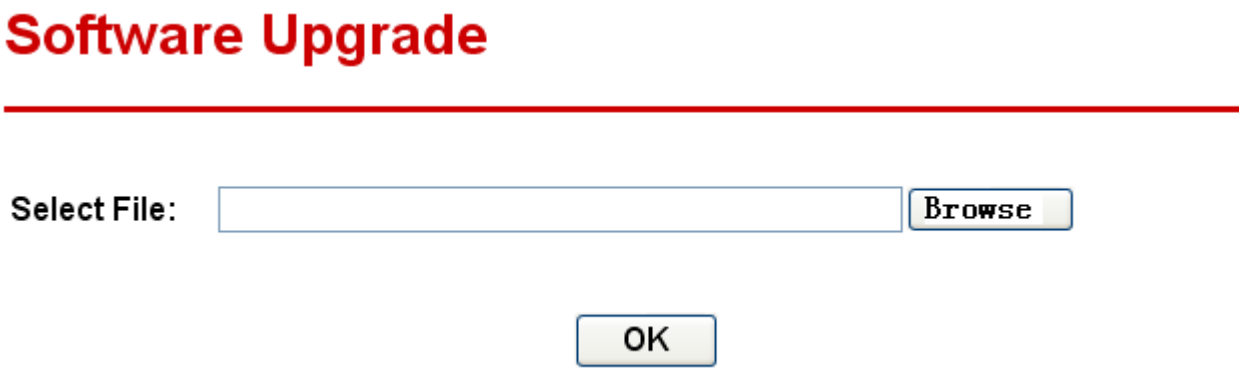
This menu used to display warning message. When the Error LED is red on front panel, you can check the warning message by entering this menu.



System Information

Software Upgrade

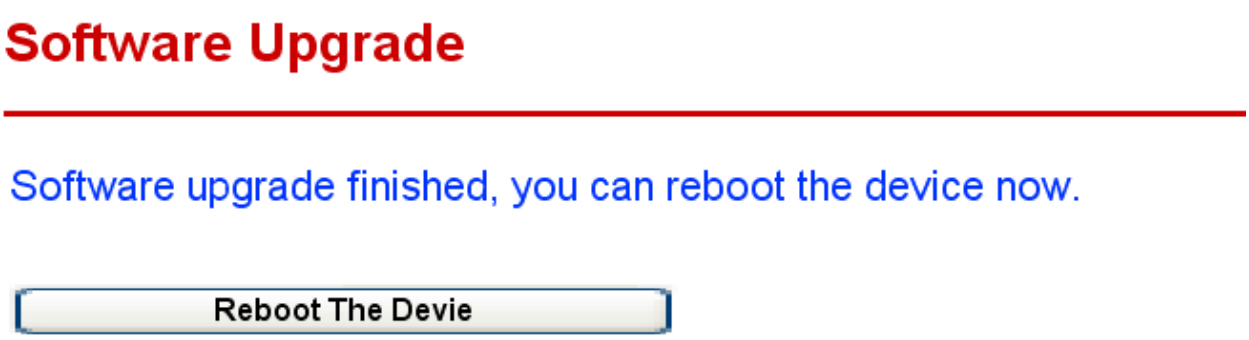
Software Upgrade menu can used to upgrade RM100x SERIES PROFESSIONAL RECEIVER's software using firmware stored on the computer.



Very Important Notice: Please be sure not power down the device when upgrading software, otherwise the software system of the device will be damaged.

To upgrade software, you must do as following:

1. Get correct firmware from Realmagic Technology
2. Click Browse and select the file obtained from step 1
3. Click OK to upgrade software, wait until following message displayed



4. Click Reboot The Device Button to reboot the device to enable the new software take effect